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WISDOM IS COMMON SENSE TO AN UNCOMMON DEGREE

# THE REA LINEMAN

RURAL ELECTRIFICATION ADMINISTRATION

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## Wrong Disconnection Causes Accident

### Texas Training Program Begins To Show Results

Texas, which has had an outstanding job training and safety program for several years, is beginning to see the results of its training and safety work. During January and February, storms caused major damage in northern sections of the State. The damage was severe enough to be classed as an emergency. M. D. Kaderli and G. C. Baker, two of Texas' job training and safety supervisors, were called in to assist. Baker's crew of 61 men, working under the worst conditions and encountering all types of hazards, completed the job without a single lost time accident. In the February storm, Kaderli worked with a group of 50 linemen 12 hours a day for 8 days. Service was restored without a scratch.

Much credit for the success of the Texas program is due E. L. Williams, Head, Department of Industrial Education, Texas A & M College. Not only has Mr. Williams spent a

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### Kentucky Foreman Saves Life, Receives Safety Council Medal

Shelburne Adams, line foreman of the South Kentucky Rural Electric Cooperative Corporation recently received the President's Medal of the National Safety Council for saving the life of Raymond Zeig. The medal was presented by Joe A. Clarke, Kentucky job training and safety supervisor, at a line foremen's conference at Western State Teachers' College, Bowling Green, Ky., during March.

### Lineman Unconscious On Pole Until Rescued By Foreman

Failure of a lineman to disconnect a line at a proper point apparently was responsible for an accident that could have been serious.

The pole on which the accident occurred was originally an A-5 with conventional transformer, secondary services and a down guy. A section of old acquired line was connected by a slack span, thus changing the pole from an A-5 to an A-6.

A line crew was sent to rebuild the old line at this point, to serve a new member. The rebuilding job consisted of replacing some of the poles in the old line and moving the transformer to a point halfway between the old member K (see sketch) and the new member J. Secondary underbuild was to be installed (dotted lines on sketch) and the double dead-end eliminated on the A-6. The work had proceeded as follows:

Poles D, E, F, G and H were replaced. Poles I, J and L were set and the line was de-energized at pole C to complete this work. The transformer had been removed and the services to old member X from the A-6 to pole M were taken down.

It was necessary to de-energize beyond pole M, to complete the remainder of the work. A lineman was sent to do this. He traveled west along the public road and turned north and should have gone approximately one mile to another crossroad and turned back east to pole A.

Instead he turned right into a lane before reaching the crossroad and followed a section of line down to pole B and de-ener-

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# THE REA LINEMAN

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for Employees of REA-financed Systems

David A. Fleming, Editor

## Only One Accident

- EDITORIAL -

A careful study of the analyses (Page 4) of fatal accidents which occurred to REA system employees during the years 1944, 1945 and 1946 will leave little doubt in anyone's mind as to our accident prevention problem.

If the majority of these accidents were due to faulty material or worn-out equipment, the answer would be simple, for the situation could be corrected by merely replacing the defective equipment or material. But the answer to this accident prevention problem is not as simple as that, because most of the fatal accidents were the result of human failure.

Why did a man climb too high and put himself in a dangerous position where he could slip and contact an energized conductor or fixture? Why didn't he have his rubber gloves on his hands instead of in the truck? The answer is simple. In his judgement, he did not need them for this job. In many instances he had performed like tasks in a similar manner without disastrous results. But it took **ONLY ONE** accident to kill him.

One cannot help wondering, in looking over some of the 37 electrical shock fatalities, why protective grounds were not installed both ways in sight of the work area. By so doing, the man working on the line would know definitely that it was dead.

The difference between knowing and thinking may be the difference between staying alive or being killed or disabled. Since electrical shock fatalities account for 77.3% of the total fatalities, most of the fatal accidents which occur on REA systems could be avoided by the proper use of rubber gloves and protective grounds.

It will be noticed in this 3-year analysis of fatal accidents that only one fatality was caused by a pole breaking and falling with a lineman. The reason for this is that REA

## ROUND-UP OF SAFETY AND JOB TRAINING

The Mississippi Job Training and Safety Program will sponsor two foremen's training conferences May 12 and 13 and May 27 and 28. The conferences will be under the direction of Dr. D. W. Aiken, State Teacher Trainer of Trade and Industrial Education, and E. H. Stovall, job training and safety supervisor.

Idaho and South Dakota recently organized safety councils. Meetings are held monthly to discuss state safety problems. J. C. Wolfe is chairman of the South Dakota safety council. George W. Banks is chairman of the Idaho safety council.

J. H. Couch has been employed by the Tennessee Job Training and Safety Program to assist C. G. Alexander in training and safety work. Mr. Alexander, Senior Supervisor, will operate in the eastern half of Tennessee. Mr. Couch will cover the western section.

The University of Florida at Gainesville is now providing rubber glove testing facilities. This service was established because of the lack of commercial testing laboratories in Florida.

The National Safety Congress will be held in Chicago this year, the week of October 6. Hotel reservations for this event should be made early.

TEXAS (Continued)  
great deal of time in training the supervisors in teaching methods but he has also arranged for sufficient personnel to do a good job of training in the large area which had to be covered. This, together with splendid cooperation from the Texas advisory committee and system managers, is beginning to pay dividends in increased efficiency.

systems are new, except for acquisitions. Linemen reason that the poles do not require careful checking before climbing. There is a danger in this situation. If linemen get out of the habit of inspecting before they climb, the lines will deteriorate and many unsafe poles will be climbed without being inspected for condition.

## Wrong Disconnection

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gized at this point. Instead of killing the line at the location where the work was to be done, he killed another short extension which ran south. When the line was killed, he applied protective grounds at this point and drove back to the work area where he reported that the line was de-energized and grounded. A lineman went up pole C to remove the cross-arm, cutout and arrester. In moving about upon the pole, the lineman contacted either the primary or the hardware back of the bell insulator. It is not known which, because the bells were found broken and showed indication of leakage.

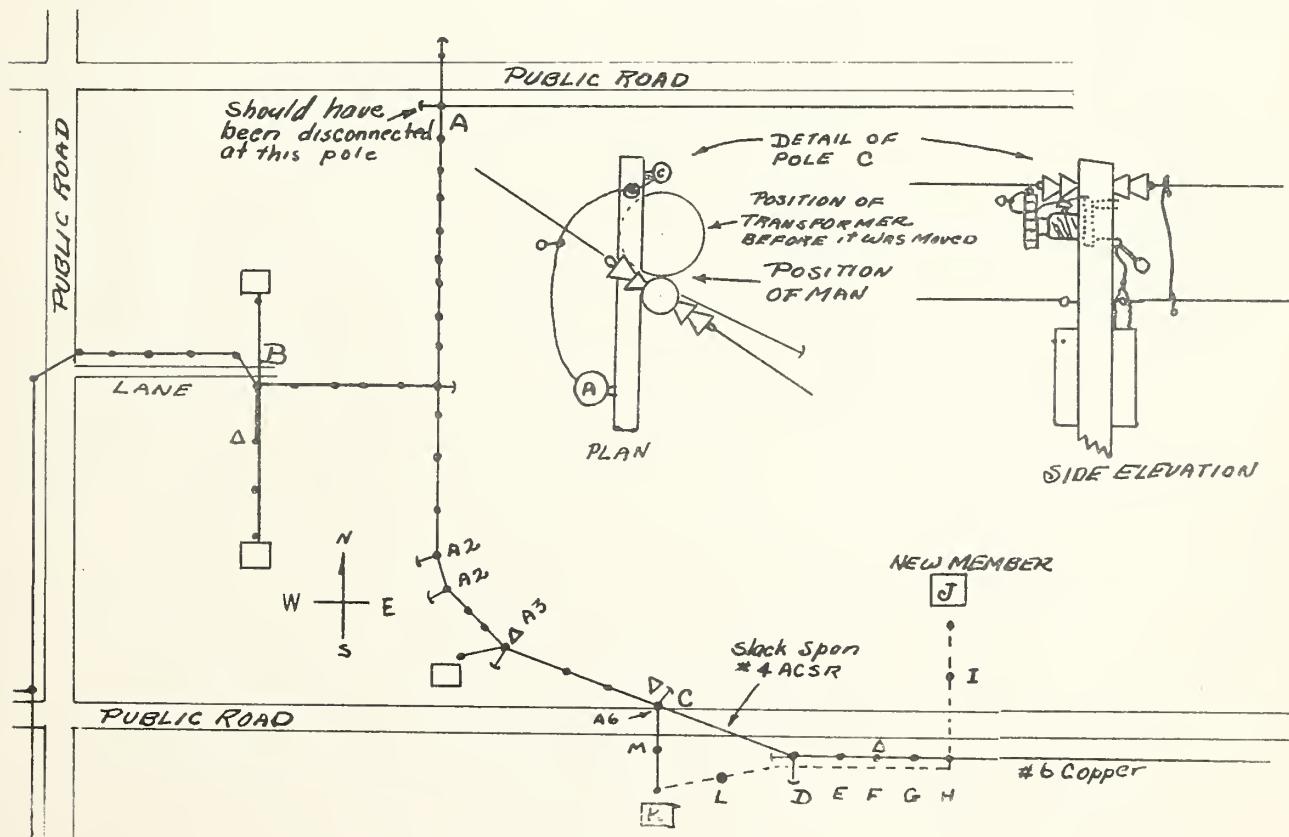
The shock caused the lineman to slump in his belt and slide down the pole until one of his spurs caught in the ground wire, causing his leg to fold up and wedge between his body and the pole. This tightened his safety belt sufficiently to check his fall. He hung head downward in this position until the foreman climbed the pole and removed him. The shock rendered him unconscious. He regained consciousness, however, before he was removed from the pole. The first three fingers of both hands were burned. These burns were not serious and resulted in no lost time.

## Men Injured Unloading Poles

A carload of lodgepole pine poles was received on a flat car. A crew of men attached a cable around the poles at the center of the car and attempted to bind them by attaching a block and tackle. Two men then cut the uprights on the side of the car. The pressure of the poles caused the load to settle and increased the tension on both the bands and the cable around the center of the load. It was then planned to cut the bands and allow the poles to unload by paying off the fall line of the block and tackle. As soon as the bands were cut, however, the increased tension placed upon the cable caused it to break loose where it was attached to the car. The remaining stakes broke and the poles unloaded from both sides of the car. Two men on top of the load were thrown to the ground. Several poles rolled over them, but fortunately inflicted only minor injuries. The men were badly bruised and one of them suffered a broken ankle.

### ACCIDENTS DON'T ADD UP

They subtract	-	from your pleasure.
They add	!	to your discomfort.
They divide	+	your income.
They multiply	x	your worries.



**ANALYSIS OF ACCIDENTS FATAL TO REA SYSTEM EMPLOYEES**  
**1944 - 1945 - 1946**

<b>ELECTRIC SHOCK 77.3% OF TOTAL FATALITIES</b>	<b>Hand Contacts</b> <b>67.5% of All Electric Shock Fatalities</b>	<ol style="list-style-type: none"> <li>1. Contacted transformer primary bushing.</li> <li>2. Stripping underbuild -- flipped into primary.</li> <li>3. Contacted transformer bushing.</li> <li>4. Installed arrester -- contacted hot lead.</li> <li>5. Tightening nut -- wrench slipped off -- struck primary.</li> <li>6. De-energized arrester instead of transformer -- touched bushing.</li> <li>7. Hooks cut out -- grabbed primary.</li> <li>8. Hot tap jumper clamp struck hand</li> <li>9. Replaced substation fuses (33000 v.) hot with rubber gloves.</li> <li>10. In contact with energized pole ground -- grasped neutral.</li> <li>11. Slipped -- grabbed energized phase.</li> <li>12. Sagging underbuild -- slipped into transmission.</li> <li>13. Splicing underbuild on ground -- flipped into primary.</li> <li>14. Installing arrester -- jumper struck primary.</li> <li>15. Replacing cutout fuse -- contacted live part.</li> <li>16. Bonding guy tail to neutral -- tail contacted transformer bushing.</li> <li>17. Measuring cutout jumper -- it contacted primary.</li> <li>18. Removed wrong jumper at junction -- grasped primary.</li> <li>19. Grasped hot primary</li> <li>20. Tying in underbuild -- broke, flipped into primary.</li> <li>21. Contacted transformer bushing terminal.</li> <li>22. Disconnected pole grounds -- thus got in series with transformer.</li> <li>23. No details -- crew noticed victim hanging in belt.</li> <li>24. Reaching around pole with safety -- touched transformer bushing.</li> <li>25. Stringing underbuild -- flipped into primary.</li> </ol>
<b>Body Contacts</b> <b>32.5% of All E. &amp; Fatalities</b>		<ol style="list-style-type: none"> <li>26. Hooks cut out -- fell into 120 v. secondary.</li> <li>27. Installing crossarm -- contacted primary.</li> <li>28. Climbed too high -- head contacted primary.</li> <li>29. Slipped -- fell across 120 - 240 v. secondaries.</li> <li>30. Checking oil circuit breaker -- head touched primary.</li> <li>31. Transformer ground severed and hot -- leaned against pole.</li> <li>32. Installing arrester -- contacted hot lead.</li> <li>33. Contacted primary while changing crossarm.</li> <li>34. "A" frame energized -- fell against it.</li> <li>35. Changing insulators -- head touched primary.</li> <li>36. Killed wrong line -- head touched phase.</li> <li>37. Climbed too high -- shoulder touched primary.</li> </ol>
<b>Struck by falling objects</b> <b>10.4%</b>		<ol style="list-style-type: none"> <li>38. Tree being felled -- crushed ax man.</li> <li>39. Cutting stakes on car of poles -- stakes broke.</li> <li>40. Rolling poles out of pile -- slipped -- pole rolled over head.</li> <li>41. Pressure of poles broke stake -- fractured skull.</li> <li>42. Pole gin broke under strain -- pierced chest.</li> </ol>
<b>Falls</b> <b>8.9%</b>		<ol style="list-style-type: none"> <li>43. Pole broke -- fell with lineman.</li> <li>44. Hooks cut out -- fell to ground.</li> <li>45. Trimming trees -- fell to ground.</li> <li>46. Dead limb broke -- fell to ground.</li> </ol>
<b>Others</b> <b>4%</b>		<ol style="list-style-type: none"> <li>47. Stringing wire across river -- pulled overboard.</li> <li>48. Apoplexy</li> </ol>

